Activity: ID Limestone Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Enquiry standards:

1.2 Make predictions directly related to a research question

3.1 Record raw data appropriately in a manner that allows easy interpretation

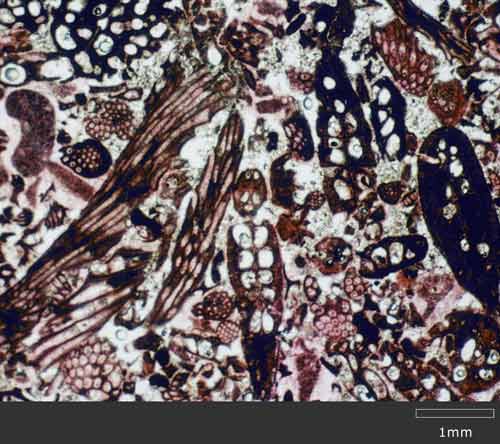
3.3 Draw valid conclusions, allowing for errors and uncertainties

4.1 Select and use correctly and competently the appropriate equipment and materials for an investigation, with due regard for the safety of self and others

**Research question:** Can we develop a diagnostic test for limestone using common laboratory equipment?

**Supporting information:**

Limestone is composed of the skeletons of marine organisms. These organisms include microscopic foraminifera, and larger bryozoa, corals and molluscs.



Magnified view of limestone

The skeletons of these animals are largely composed of calcium carbonate (CaCO3).

Calcium carbonate reacts with acid according to the equation:

CaCO 3 + 2H+ Ca2+ + H2O + CO2

**Instructions:**

Choose appropriate equipment and use it to determine which of the rock samples are limestone.

Describe how you will use the equipment and what you will expect to observe:

Now carry out your test using the rock samples provided and record your observations in the table below:

|  |  |  |
| --- | --- | --- |
| Rock sample | observations | Conclusion (is it limestone?) |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |

Describe how you ensured your own safety and the safety of others during the experiment: